

Fig. 1a  
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A2115+_neime	9 SFHGSTLVKTADG (0) YKAIARIAQDRVFAKDETSBK (27) NNQTLISNKIHPFYS (3) WIQAGRLKKGDTLIS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHITYFV (7) EGVVHNE (SEQ ID NO: 8)
B0372+_neimeB	6 SFHGSTLVKTADG (0) YKAIARIRTGDRVFAKDEASBK (27) NNQTLISNKIHPFYS (3) WIQAGRLKKGDTLIS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHITYFV (7) EGVVHND (SEQ ID NO: 9)
B0655+_neimeB	9 SFHGSTLVKTADG (0) YKAIARIRTGDRVFAKDEASBK (27) NNQTLISNKIHPFYS (3) WIQAGRLKKGDTLIS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHITYFV (7) EGVVHND (SEQ ID NO: 10)
3875_87_magma	292 CFVAGTPVRMADG (1) EKAIEVEIGEQQVQGTGTINE (17) NSLDFFVTADHPFLT (17) ALNVTQLVIGDTLIT (-)
-----	(19) VVYNLHLIGNITYVA (0) SGYYVHNY (SEQ ID NO: 11)
FhaB_psesy	5987 CFAAGTMVSTPDG (0) ERAIDTLKVGDIVWSKPEGGK (31) EDESLLVTPGHFFV (5) FVPVIDLKPGRDLQS (-)
-----	(23) KTYNLTVDVGHITYFV (2) LKTWVHNT (SEQ ID NO: 12)
FhaB1_psef1-pfO-1	1783 CFAAGTMVATPKG (0) ERAIETLKIGDVWSKPEQGGE (31) SSETLEVTPGHFFV (5) FVPLIELQPGDRDLQS (-)
-----	(23) RTYNLTVDIGHTFYV (2) LGTWVHNV (SEQ ID NO: 13)
FhaB2_psef1-SBW25	3835 CFAAGTMVATPSG (0) DRAIDTLKVGEIVWSKPEHGGE (31) EGETLLVTPSHFFV (5) FVPAINLKPGRDLQS (-)
-----	(23) KTFNLTVDIGHTFYV (2) LKTWVHNT (SEQ ID NO: 14)
SCP1.201_strco	1082 SFPAGTRVLMADG (1) RRSIEQIEAGDLVTATDPTTGE (24) DGSTLTSTTHHPYWS (5) WKNAGDLEAGDTLRT (0)
PONTAVVIAATHDW	(4) DAYDLTVDFHSHYV (4) TDVLVHNN (SEQ ID NO: 15)
39_9_thefus	314 SFVPGTLVLLADG (1) YAPIETITVGDVWAFDPRTGT (28) HGGVVVATDAHPFFV (5) WVAADLEPGTWLRT (0)
SAGTWVQVRVAVR	(5) RVHNLTVADLHITYV (4) ADALVHNE (SEQ ID NO: 16)
MafB1_neigo	347 SFHGSTLVKTADG (0) YKAIARIAQDRVLSKDEASGE (27) NSQTLISNRIHPFYS (3) WIKAECLKAGSRLIS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHITYFV (7) EGVVHND (SEQ ID NO: 17)
BIL2_neigo	9 PFHGSTLVKTADG (0) YKAIARIRVGDHVFADKDEASGE (27) NNQTLISNRIHPFYS (3) WIKAECLKAGSRLIS (0)
ESGRTQTVRNIIVK	(4) KAYNLTVADWHITYFV (7) EGVVHNA (SEQ ID NO: 18)
BIL3_neigo	9 SFHGSTLVKTADG (0) YKAIARIAQDRVLSKDEASGE (27) NSQTLISNRIHPFYS (3) WIKAECLKAGNRLFA (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHITYFV (7) EGVVHNS (SEQ ID NO: 19)

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MafB2_neigo	347 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 20)
BIL5_neigo	9 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGKTQTVRNIIVK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 21)
BIL6_neigo	9 PFHGSTLVKTADG (0) YKAIAHIQTGEHVFAKDETSKG (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGRTQTVRNTVVK	(4) KAYNLTVADWHTYFV (7) EGVVHNS (SEQ ID NO: 22)
MafB1_neimeC	348 SFHGSTLVKTADG (0) YKAIAHIRVGESVFAKDETSKG (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 23)
BIL2_neimeC	9 PLVVGALVKTADG (0) YKAIAHIRVGESVLSKDEASGK (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 24)
BIL4_neimeC	9 SFHGSTLVKTADG (0) YKAIAHIRVGESVLSKDEASGK (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 25)
BIL5_neimeC	9 SFHGSTLVKTADG (0) YKAIARIRTGDRVFAKDEASGK (27) NNQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 26)
BIL6_neimeC	9 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLISNRIHPFYS (3) WIKAE DLKAGSRLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7) EGVVHNS (SEQ ID NO: 27)
FhaB_manha	2881 SFHGDMEVKTDKG (0) YRQISSIKVGDKVLAKNERTGI (27) KYHTIVSNKIHPFFT (24) WVDAQHLQKGYRLLA (0)
ESGEWQTVTKVKIK	(4) KAYNMTVEKDHTYFI (7) EGVVHND (SEQ ID NO: 28)
BIL1_cloth	48 CFVAGTLILTAVG (0) LVAIENIKAGDKVIATNLETFE (22) NGEVIKTTFEHPFYV (4) FVEAKELQVGDKLLD (0)
SKGNVLVVEEKKLE	(6) KVNFBHVDDEFTYHV (2) NGILVHNA (SEQ ID NO: 29)
BIL2_cloth	31 CFVAGTMVLTAAG (0) LVAIENIKVGDKVIAANPETFE (22) GGEVIKTTVDHPFYV (4) FVEAVNLQVGDKLVD (0)
SKGNVLVVEEKKLK	(6) KVNFBKVDDEFTYHV (2) KGILVHNA (SEQ ID NO: 30)
BIL4_cloth	16 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) GGEVIKTTFDHPFYV (4) FVEAGKLQVGDKLLD (0)
SRGNVLVVEEKKLE	(6) KVNFBKVDDEFTYHV (2) NEVLVHNA (SEQ ID NO: 31)
BIL5_cloth	31 CFVAGTMILTTTG (0) LVAIENIKAGDKVIATNPETFE (22) GGEVIKTTFDHPFYV (4) FVEAKQLHVGDKLLD (0)
SKGNVLVVEDKKIK	(6) KVNFBQVADFHTYHV (2) NGVLVHNV (SEQ ID NO: 32)

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BIL6_cloth	87 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) NGDVIKTTFEHLFYA (4) FVEAKELQVGDKLLD (0)
SKGNVLVVEDKKIK	(6) KVNLFQVDDFHTYHV (2) NGVLVHNV (SEQ ID NO: 33)
BIL8_cloth	8 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) GXEIIKTTLGHLYV (4) FVEAVKLQPTDKLVD (0)
SGGNVLVVEKKFE	(6) KVNLFKVNDFYTYHV (2) NGILVHNV (SEQ ID NO: 34)
BIL9_cloth	22 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) GXEIIKTTLGHLYV (4) FVEAVKLQPTDKLVD (0)
SGGNVLVVEKKFE	(6) KVNLFKVNDFYTYHV (2) NGILVHNV (SEQ ID NO: 35)
0709_lepin	2026 CFTAGSKVTKLKN (29) FANIEEIKIGDIVRSWNENTNT (23) GEEIHTTWNHPPRR (78) WVKVEDLRLKDQVLR (0)
SDGSWGTVTGIYY	(5) KVNLEVEDNHTYV (6) IGYVVHNY (SEQ ID NO: 36)
3725_lepin	2037 CFVAGSKVTKLKN (29) FANIEEIRIGDVRSWNENTNT (23) GEEIHTTWNHPPRR (74) WVKVEDLRLRDQVLR (0)
SDGSWGTVTGIYY	(5) KVNLEVEDNHTYV (6) KGYVVHNY (SEQ ID NO: 37)
BIL2_gemob	1296 CFAAGTKLLTRRG (0) WVAVELLGIGDEVASRTEHDLT (24) GGELIRTTPEHPFW (4) WTAAGSLAAGDRIAT (4)
LSGEWPIAEVFDT	(4) PVYNLRVADHHTYFV (6) FAWAHNA (SEQ ID NO: 38)
BIL1_gemob	6441 CFASGTPMRTPGG (0) WCNIENLRVGFVLSRDEFSP (23) LGQIRSTDEHPFFV (-) ----- (-)
-----	(37) TVYNFRVADHHTYFV (6) FSVWAHNI (SEQ ID NO: 39)
BIL1_pirsp	560 CLVAGTLVWDRG (0) MRPVESLRLGDQVLSQVQTS (22) GSDEIVASKGHPFW (4) WTTTEQLVPGDALHG (-)
-----	(16) KTYNLVVEQTHSYFV (2) SRILSHDA (SEQ ID NO: 40)
BIL1_strav	2125 SFKPTTRVLMKDG (1) TKPLGKIKPGDLVEAADPTS (28) RIQTLHTTARHRIWD (5) WEQAGRLITGHKVNT (0)
SGNQHATITSVLAQ	(4) DMYDLTVEGLHTYV (4) TPVLVHNG (SEQ ID NO: 41)
BIL2_strav	2105 CFLAGTDILMADG (1) TKDIEEVELGDKVQATDPKTGE (27) GAEELTATHEHPFWS (5) WITAGSLEPGMTLLT (0)
DDGDTVIVTGNRAF	(4) TTYNLTVNDLHTYV (4) TPVLVHNS (SEQ ID NO: 42)
BIL3_strav	389 SFPAGTRVLMGDG (2) TLPVIEQITVGDVSLATDPEAGT (29) GPPALTATDRHPFW (5) WADARDLNSGDTLRT (0)
PDGTGVRIDKVTHW	(4) GAYNLTVNDLHTYV (4) VPVLVHNA (SEQ ID NO: 43)
o1070_myxxa	937 CVAPWELVLLGDG (1) EVPAEMLRPGMRVLTMHEHERD (22) DGRVLVVTDPDHRWRT (-) ----- (-)
-----	(33) DVMRITVRFAMTYIV (0) QGLLAHNL (SEQ ID NO: 44)

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o1078_myxxa	945	CVAPWEPVLLSDG	(1)	EVPAEMLRPGMKVLTMHHERD	(22)	DGRAVVVTPDHRWRT	(-)	-----	(-)
-----	(35)	DVMKISVRFAKTYV	(0)	QGLLAHNL (SEQ ID NO: 45)					
o649_versp	415	CFPSGTMVQTARG	(0)	KVAIETLKEGDVVLAYDFLSEC	(22)	GDSKISATRFHLFWV	(5)	WVPAVDLQPGMVLRL	(0)
ESGALTVVTLAKLR	(6)	ATHNFEVADLHNYFV	(2)	QGFLVHNG (SEQ ID NO: 46)					
o5687_versp	548	CFPAGTMVLMADG	(1)	SVPIEQVVEGDIVLAAEPETES	(24)	TGSVLKVTGEHPiWT	(4)	WQHADDLVEGDLLLK	(-)
-----	(19)	DTFNLCVEGVHTFFV	(4)	DAVLVHNT (SEQ ID NO: 47)					
o3395_versp	3123	CFAPGTPVLMGDG	(1)	TRPVETIREGDWIMADDPEDER	(30)	PDGALKATGGHPFWT	(4)	WIKVCNLQPNLILAD	(-)
-----	(18)	ATYNLSVANIHTFFV	(4)	VPVLVHNT (SEQ ID NO: 48)					
BIL3_glovi	1741	CFAEGTEVQTEG	(0)	TKAIEKVEPGEKVLARNEKTGE	(29)	ERDTLTVTGEHPFFL	(4)	WTAERLRSGERVQA	(0)
VDGKWLRLVVGLQPQ	(4)	RTYNLEVEGEHTFFV	(2)	TRAWVHNE (SEQ ID NO: 49)					
BIL2_glovi	115	CFAEGTEVQTEG	(0)	AKPIELVAPGEKVLARNEQTGE	(29)	DRDVLTVTGEHPFFL	(4)	WTAADKLQVGERVQT	(0)
VDGQWLRLVAGLQAAQ	(4)	RTYNLEVERDHTFFV	(2)	SKAWVHNE (SEQ ID NO: 50)					
BIL1_glovi	184	CFSEGTEVQTEAG	(0)	AKPIELVEPGEKVLARNEQTGE	(29)	ERDTLTVTGEHPFFL	(4)	WTAERLKSGERVQA	(0)
ADGKWLRLVAGLEAQ	(4)	RTYNLEVEGDHTFFV	(2)	NQAWVHNE (SEQ ID NO: 51)					
BIL1_chrvi	485	CFVAGTQVLTDKG	(0)	LKAIETFVGGEVWWSRSDQTGE	(27)	RQETFRTTAEHPFWV	(4)	WLKASLLQAGVILVD	(-)
-----	(18)	TVFNIQVAEFQTYHV	(2)	LGWVWHNA (SEQ ID NO: 52)					
BIL4_glovi	81	CFAEGTEVQTEG	(0)	TKAIEKVEPGEKVLARNEKTGE	(29)	ERDTLTVTGEHPFFL	(4)	WTAADKLQAGDRVQA	(0)
VDGRWLRLVVGLAAQ	(4)	RTYNLEIEGEHTFFV	(2)	NQAWVHNE (SEQ ID NO: 53)					
BIL5_glovi	104	CFGEGTAVQTETR	(0)	AKPIEQIEPGEKVLARSERTGQ	(43)	ERDTSTVTGEHPFYL	(-)	-----	(-)
-----	(-)	-----	(-)	----- (SEQ ID NO: 54)					
BIL3_neimeC	11	-----	(-)	-----	(-)	NSQILISNRIHPFYS	(3)	WIKAECLKAGSRLLS	(0)
ESGKTQTVRNIVVK	(4)	KAYNLTVADWHTTYFV	(7)	EGVWVHND (SEQ ID NO: 55)					
BIL3_cloth	70	CFVAGTMILTATG	(0)	LVAIENIKAGDKVIATNPETFE	(22)	NGEVIKTTFEHPFVY	(4)	FVEAGKLQIGDRLVD	(0)
-----	(-)	-----	(-)	----- (SEQ ID NO: 56)					
BIL7_cloth	17	-----	(-)	-----	(-)	-----	(-)	-----	(-)
SKGNVLVVEEKKLE	(6)	KVYNFKVNDFTYHV	(2)	DGILVHNA (SEQ ID NO: 57)					

BIL10_cloth	0	(-)	(-)	(-)	(-)	(-)
-----	(-)	VYNEKVDNFHTYHV	(2)	NRVLVHNA	(SEQ ID NO: 58)	
BIL11_cloth	10	(-)	(-)	(-)	(-)	FVKEMKLPQGNRLVD (19)
KVYNF-----	(-)	-----	(-)	-----	(SEQ ID NO: 59)	
3719_lepin	123	(-)	(-)	(-)	(-)	WVKVEDLRLRDQVLR (0)
SDGSWGTGTGIYY	(5)	KVYNLEVEDNHTYIV	(6)	IGYVVHNY	(SEQ ID NO: 60)	
BIL6_glovi	136	CFAEGTEVQT--	(-)	-----	(-)	-----
-----	(-)	-----	(-)	-----	(SEQ ID NO: 61)	
BIL7_glovi	13	-----	(-)	-----	(-)	WTAERLEPGDRVQA (-)
-----	(-)	-----	(-)	-----	(SEQ ID NO: 62)	



Fig. 1b  
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00126\_rhoca 160 CFTPGTLIDTPAG (0) PRPVEALRPGDRVSTRD (3) QEILWIGSRRM (12) PVRLGAVRLG (14) AADLLVSPQHRVLV (12)  
EVLVQACDLVDDAAV (8) VTYLHLLFARHQVIRAN (0) GVETESF (SEQ ID NO: 63)

00199\_rhoca 37 GFYGETVLQTARG (0) LRRVSSILEGKMRFTT (3) APVLSIERFAL (12) PLSLPAGLFG (1) TRNRFVAPEQCILL (12)  
LLLVPAKVLGLLPQV (8) AVLYRLLFERPELVTD (1) GAVMLCD (SEQ ID NO: 64)

00459\_rhoca 38 GFAAGTRVRTPAG (0) LRRIETLKPGDLVETQE (3) QPVVAVERTRL (7) PIRFAAGAAG (1) ERPVLVAPQQRVLV (12)  
EVLVAARTLVDGEMV (7) VDYVRLVFDCAHMVFAE (0) GLAVECF (SEQ ID NO: 65)

00460\_rhoca 174 CFAPSTPIATPGG (0) DCPAASLKAGDLVLTAD (3) QPILWSGRIAL (7) PVRLCAPAFG (1) TRDLWVLPQHRVAL (12)  
EVLVPAHHLVDGISA (8) LSWHGLLLQGHLLIAD (0) GCRVESL (SEQ ID NO: 66)

00588\_rhoca 473 CFTAGTLIETPRG (0) PVPVESLRAGDLVVTRD (3) VPVLWSGGRSL (12) PVAIRENALG (1) HGALLLSPOHVALA (5)  
ERLVRARHLAGLNDP (10) VSYHHILLERHGIIVTAN (0) GLACESL (SEQ ID NO: 67)

00746\_rhoca 85 ALARGSVLMTEDG (0) PVAIEDLPQGQGLTAE (3) ERVCWIGSMVI (15) LTRITAEAFG (4) ALDLVLGPRARLCL (12)  
AADVPARAFLDGISV (8) VTVYHVVLQHGSLRVA (0) GLEVEAF (SEQ ID NO: 68)

00949\_rhoca 125 CLGTGTMIATAEG (0) PAPIDWLRPGDRVLTRD (3) QPLLWVGQHTM (9) PLLLSAACFG (4) ERDVLSPGTGVLL (12)  
EMFAKARHALPKAEA (4) QKLYSMLLATPEVVLAE (0) GMWVGSV (SEQ ID NO: 69)

01216\_rhoca 128 CFAAGTLIATRRG (0) PKPVEDLGPEDRLQTSQ (3) RPYQWVGWRV (7) PVRFAPGVLG (1) DRALFLSGQHRVLI (10)  
EVLVAAKALVGLPGI (7) VDWVHVMPTHEVIFAE (0) NARAETM (SEQ ID NO: 70)

01374\_rhoca 144 AFTTGTLLITMAGG (1) QRPIETLAPGDRVLTRD (3) QPVLVARATL (7) PVVISAGTLG (1) ESDLVVAPHHRVFL (12)  
EILVQAKHLVDGEHV (7) VDYFALVFDHRHEIVYAE (0) GVPVESL (SEQ ID NO: 71)

01523\_rhoca 85 CFTATSLIATGQG (0) GVPVSELVPGARVITRD (3) QELLWVGRRRF (12) PVRIAAGALG (4) ERDMLVSPNHRFLT (9)  
ERLTMARDLVGLDGI (7) VDYWQLLFAHHELVLAD (0) GAWSESF (SEQ ID NO: 72)

01524\_rhoca 89 CLTPGTLLIETKRG (0) QVPVEKLRPGDRVLTRD (3) QPIRWIGRRRL (12) PVRIAAGALG (4) ETDMLVSPQHRMLI (12)  
EVLAAALHMLGQPGI (7) VTYLHMLDAHEIIRAN (0) GAWTESF (SEQ ID NO: 73)

02710\_rhoca 541 CLVAGSRVSTPRG (0) PVPVEDLRPEDLVTVRD (3) LPVLWIGRRRV (12) PVEIGAGRLG (1) AAPVRLSALHGIAV (2)  
GFLARAGHLAATGWG (14) VLYLHLLPRHALLSVE (0) GLWVESF (SEQ ID NO: 74)

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03530\_rhoa 39 GFAMGSRVATMDG (0) LLPVEFLNLGDRIVTRS (-) ----- (16) LVGIAPGALG (4) GOAMVLGSGTQVLL (12)  
QALVAVERLIDGQFI (7) IRIFALHFEAPEVIYAD (0) GVEIGCK (SEQ ID NO: 75)

4825\_rhosp 28 CFTPGTLIATVRG (0) EVAVEALAAAGDRIVTRD (3) QPLRWISRRRL (12) PVLIEKGSGLG (4) DRDMMVSPNHRILV (12)  
EVLVAAKHLVGPRGI (7) TTYLHLMFDRHEVVLAN (0) GAWTESF (SEQ ID NO: 76)

BIL2\_rhosp 34 SLTAGTPVITLAG (0) IRPAEGIRPGDRILVARS (-) ----- (17) MVAIGASTLA (4) DETLLVPADQPLL (12)  
PVVLPARRLVDCQLT (7) VDLVTLTFAAPAAYAS (0) ELHPVTR (SEQ ID NO: 77)

BIL1\_brusu 86 CLLKGTLVTPNG (0) PVAVEKLCVGDVLTTS (3) LPIKWIGWQNY (12) PIRVRRHALD (4) HRDLYLSPNHALFI (1)  
GVLIRVKDLVNGRSI (8) LDYNNIVLDRHAVVLA (0) GAAVETF (SEQ ID NO: 78)

II0519\_brume 15 CLLKGTLVTPNG (0) PVAVEKLCVGDVLTTS (3) LPIKWIGWQNY (12) PIRVRRHALD (4) HRDLYLSPNHALFI (1)  
GVLIRVKDLVNGRSI (8) LDYNNIVLDRHAVVLA (0) GAAVETF (SEQ ID NO: 79)

BIL1\_unknown 217 CFLPGTMIKTPSG (0) ERPVEDIQINDEVITFD (8) SKIKWVGSKTI (13) PVRILKNAIS (4) HKDLLVTPEHCLEFF (1)  
GKFIPVRMLVNHQTI (8) YTYHHIETENHSVIYSD (0) GMLTESY (SEQ ID NO: 80)

BIL2\_unknown 184 CFLSGTQIKTKLG (0) VKNIEALQGVDFVTTYD (8) REVTVVGXKCYC (13) PVRIVKDAIA (4) YKDLLVTAEHCLFF (1)  
DKFIPARMLVNGSTI (8) YEYHLETQDHAVIAD (0) GVRTESY (SEQ ID NO: 81)

BIL1\_metex 139 CFTTGTLTARTAG (0) SVAVEDLIVGDVLTAS (3) RPITWIGNRAL (12) PIRIRAGAFG (4) ARDLRLSHGHPVLV (8)  
GVLVPVMCLINGTSV (7) VTYWHIELDAHDILLAE (0) GLAAESY (SEQ ID NO: 82)

BIL1\_silpo 162 CFTPGTKIATPKG (0) ERLVEDLEVGDVITRD (3) QEIRWVGSRTL (12) PVLIRQGALG (4) ERDMIVSPNHRILV (12)  
EVLVAAKHLIGLEGV (7) VTYIHFMFDQHEVVLSD (0) GAWTESF (SEQ ID NO: 83)

BIL2\_silpo 697 CFCRGTLIATAGG (0) EIPVEKLRPGDRVITRD (3) QRIRWIGGTSR (7) PIRIRTGVLK (1) TRDLLVSPNHRILM (12)  
EVLVAAKFLVDGRAI (7) VDYYHMLFDQHELVLSE (0) QAWSESF (SEQ ID NO: 84)

BIL3\_silpo 512 CFAAGTRITDRG (0) GRAIEDIAGVDLVLTRD (3) QPVRWTGRRSV (7) PIRIASGKLG (1) LRDLLVSPQHRLL (12)  
EVLAAAVHLRDDRI (7) VTYVHLMFDRHEIYAE (0) GVASESF (SEQ ID NO: 85)

BIL4\_silpo 159 CFTPGTRIATPTG (0) PRLEELREGDKVQTRD (3) QEIQWIGQRRM (12) PIRMRVGALG (4) DAELLVSPEHRMLL (12)  
EVLVPARDLVNDSTI (8) VTYVHLLLPESHQILWAN (0) GIETESF (SEQ ID NO: 86)

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BIL5\_silpo 153 CFAAGTFIEISG (0) PIPVETLRPGDLVQTLTD (3) QPLLQLAKTTV (7) PVLFRAGVLG (1) FRDLVVSQQHRMLI (12)  
EVFVPARMLVNGSTI (7) LTYHLLLFARHEIVFSE (0) GIPTESY (SEQ ID NO: 87)

BIL6\_silpo 350 CFVAGTLIDTPYG (0) ERQVERLTPGDQVFTRD (3) QEVWVGERTV (7) PILIRAGTYG (1) QRDLMVSPQHRILI (12)  
EVLVAAKDLVDGRRV (7) ITYVHVMSFDHQVIYSE (0) GLASESF (SEQ ID NO: 88)

BIL7\_silpo 248 SLHPETPIATPDG (0) YRPLSKIRRGDTIVAS (3) VPVLHRVSRMT (7) PLTIRRPYFG (1) RQDIAAPSQRLLL (12)  
SVLVPARHLTGHSV (8) ATYAQLLLPTNEAMITA (0) GALAESL (SEQ ID NO: 89)

BIL8\_silpo 179 CFVAGSLIDTVEG (0) PRPVETLAVGDLVPVED (3) QPILWIGKRTL (12) PVRIRRDALG (4) HRTLWVSPQHRIVL (12)  
QVFAAAIHLTNDDTI (8) VTYHHLAFERHLLRAH (0) GLLSESI (SEQ ID NO: 90)

BIL9\_silpo 511 CFTPGTLLIATAHG (0) PRAIETLRPGDLLIVTRD (3) QPLRWVGSRTV (7) PIRLDPDLLQ (2) SAPLLVSPQHRMLW (12)  
EVLVAATHLLGSPAA (7) VTYMHMLDRHEVIYAN (0) DAATESF (SEQ ID NO: 91)

BIL10\_silpo 174 CFTPGTIIDTEDG (0) PRLIEELQPGDLIRTLD (3) QPLRWIGRTTV (7) PVLIRAGALD (1) RRDLIIVSPQHRMLI (12)  
QALVAAKHLVNARDI (7) VTYIHLLFDRHEIWAEE (0) GCPTESF (SEQ ID NO: 92)

BIL11\_silpo 162 CFAAGTRIATPKG (0) ARPVETLAVGDLVQTLTD (3) QPIRWIGTRRV (12) PVVIPAHSFA (4) THPLLLSQQHRVLL (12)  
EILIAARRLTGLHGI (8) VRYIHFAldrHEIVFAN (0) GLPAETL (SEQ ID NO: 93)

BIL12\_silpo 158 SFTRGTHITLGS (1) QVRIEDLKVGDRVLTRD (3) REVRWIGQTTV (7) PIVIRAGTLN (1) ENDLVVSPPDHRFLV (12)  
ELLKARHLVNGDTV (7) VDYFQLLFDRHHIYAE (0) GIAAETM (SEQ ID NO: 94)

BIL13\_silpo 75 AFSRGLIDTDCG (0) PMAIEDLLPGDRVITQD (3) QEVVWKGSTVI (13) LTRIMADAFG (4) MSGVIAGPSARLLA (12)  
PMLTPVQHFVDGMGI (8) IEFVHICLRRHAVINVD (0) GLQFETY (SEQ ID NO: 95)

BIL14\_silpo 30 GLPAGTMLETEAG (0) WSPVEEIRPGTRVATID (1) ----- (18) LWRIPGGTLG (1) CSDLLLPEGHFLAL (12)  
TVLAPVAALAGFEGI (7) LPAHSLRFAEEVWVAQ (-) ----- (SEQ ID NO: 96)

BIL15\_silpo 35 GFLAGTILLTQDG (0) EMPVEFLSPGDRITRD (3) VPLHHITRAPQ (3) AIRIAAGSLG (4) DCDLILPAGQPVLI (12)  
QAMVRADALVDGEFI (7) MQLFQLHFDSAHVLYAG (-) ----- (SEQ ID NO: 97)

BIL16\_silpo 53 GLLAGTSVASNFG (0) WQPVEALKVGDKVLTFD (3) QTVADIQRETIV (11) PVRLPEGVCH (1) RRDLMMPDQGLLV (12)  
YAVVPARMLRGYRGI (8) VEVTTLAFHQDEVIYVE (-) ----- (SEQ ID NO: 98)

BIL17\_rhile 122 CFLRGTAILTDCG (0) EKPVENLSIGDRVALPD (3) RPIKWVGRQSF (12) PIRVSRHALD (4) HSDLYLSPGHALLYL (1)  
GILIQVKDLVNGKTI (10) IEYVAVMLDTHEVILAG (0) GAETESF (SEQ ID NO: 99)



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BIL3_magma	45	CYVTGTRIRTERG (0)	EIAVEDLQVGDFAVTAS (3)	RPITWIGHREI (12)	PVRVRAGAFG (4)	VNDLFLSPGHPVLV (8)
GVLVPVMCLINGTTI	(7)	VTYWHVELDAHDILLAE (0)	GLPAESY (SEQ ID NO: 100)			
BIL4_magma	129	CFVSGTRISVERG (0)	SIPVELLRIGEKARLAS (3)	RTITWIGHREI (12)	PVRVRAGAFG (4)	ARDLFLSPGHPVLI (8)
GVLVPVMCLINGTSI	(7)	VTYWHVELDRHDILLAE (0)	GLPAESY (SEQ ID NO: 101)			
BIL2_magma	126	CFVTGTMIATARG (0)	EVAVEDLRAGDFARTAE (3)	RPIVWIGHREI (12)	PVRVRTGAFG (4)	ARDLYLSPGHPVLV (8)
GTLVPI	(-)	(-)	(-)	(SEQ ID NO: 102)		
BIL5_magma	18	(-)	(-)	(-)	(-)	(-)
(-)	(-)	VTYWHVELDAHDILLAE (0)	GLPAESY (SEQ ID NO: 103)			
BIL6_magma	10	(-)	(-)	(-)	(-)	(-)
RLPAESY	(-)	(-)	(-)	(SEQ ID NO: 104)		

Fig. 2a

SEQ ID NO: 105

[CSP] [FLV] XX [GSWDT] [TESAM] X [VILM] X [TMLK] XX [GN] X (0-100) [IVAL] [EADGS] X [ILVF] XX [G] [DEM] X [VI] X [ASTG]  
X (0-100) [LIFV] X [STVAVL] [TNS] XXH [PLR] [FIWYV] X (0-200) [AVTM] [YFHM] [NDRK] [LFIM] X [VIL] XXXX [TSNE] [YFL] X  
[VAI] X (0-100) [WLVY] [VAS] [H] [ND] X

Fig. 2b

SEQ ID NO: 106

[CGAS] [FLY] XX [GEST] [TS] X [IVL] XXXXGX (0-100) [VIAL] [ESAD] X [LI] XX [GEN] [DEAQT] X [VIALM] X [TVLA] X [DSET]  
X (0-100) [PLAM] [VILTW] X [ILVFM] XXXXX [ADGHKNQS] X (0-100) [ACDEFHLMQORSTVY] [ACEGHKLNQORST] [ADEGNPT] [ILMR  
V] [FILMQRVWY] [ALMV] [AGLMPST] [AEGHPQS] [DEGHLNQRS] [AHQT] [ACFGPQR] [FILMV] [ACFLVY] [AFILMTVW] X (0-100)  
[ADEGLPQSTY] [AFIKLMRTV] [DFLMV] [AILTV] [AKMPQR] [AIV] [ACDEGHIKLMQORTV] [ACDFHMRVT] [AFLM] [AGILRTV] [ADG  
LNP] [ADFGHKLNQOSTY] [ADEGHIMNPQRSTK] [ADEFGHLMQORSTW] [AGIPTV] X (0-100) [AILMQTVY] [DEKLPQRSTV] [AILVWY]  
[AFHILMTVWY] [AGHNQORST] [FILMV] [ACEHLMRTV] [FLMT] [ADEHPQR] [ACDEGHNQORST] [ADEHNP] [ADEGHLQS] [AILMSV]  
[ILMV] [FILNRSTVWY] [AGSTV] [ADEGHNQS]

Fig. 3a

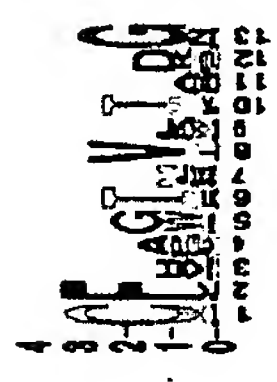


Fig. 3b

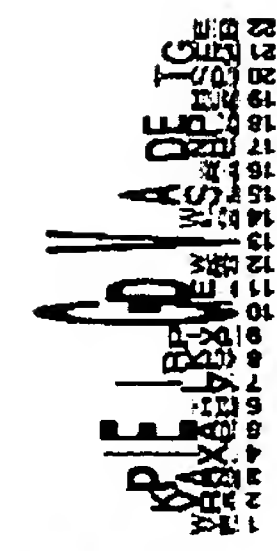


Fig. 3c

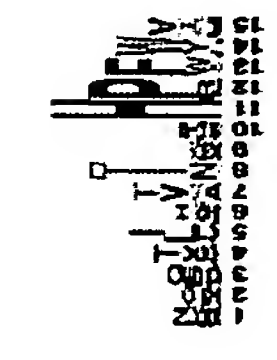


Fig. 3d

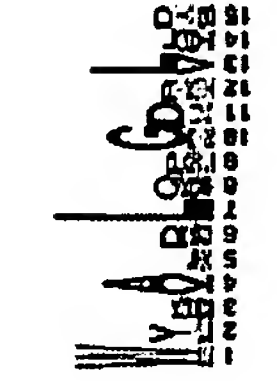


Fig. 3e

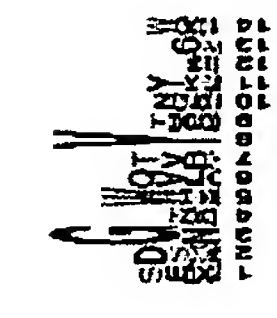


Fig. 3f

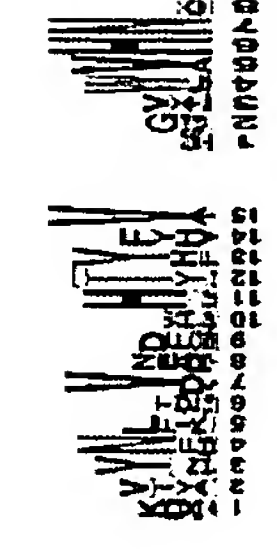


Fig. 3g

Fig. 3h

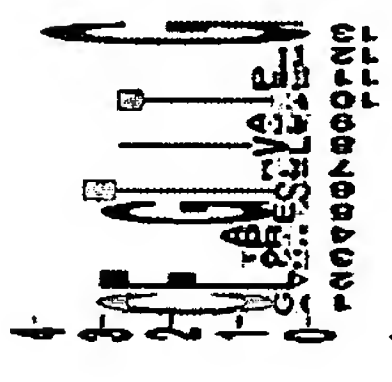


Fig. 3i

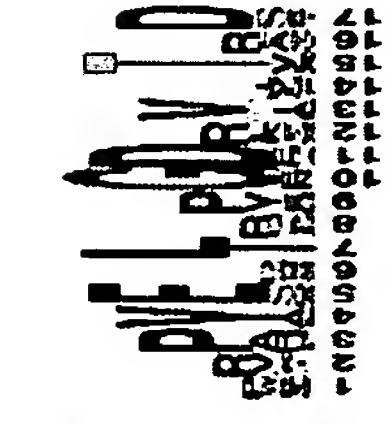


Fig. 3j



Fig. 3k



Fig. 3l

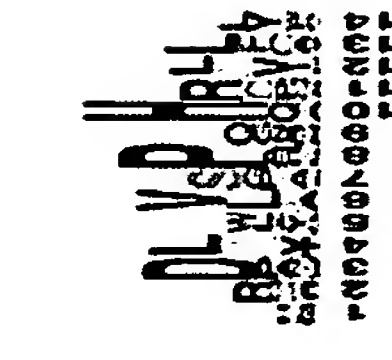


Fig. 3m

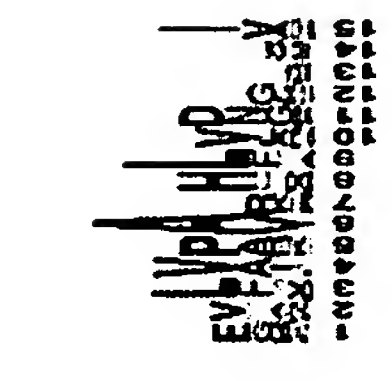


Fig. 3n

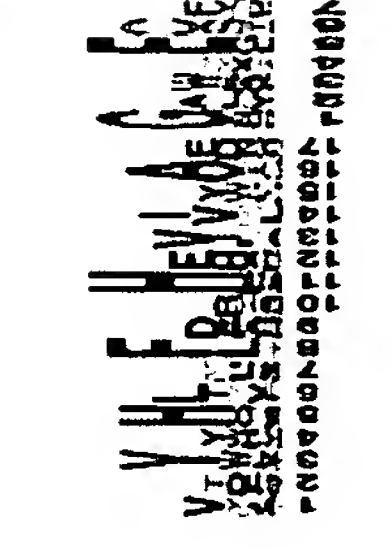


Fig. 3p

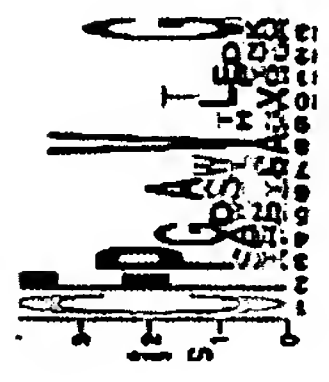


Fig. 3q

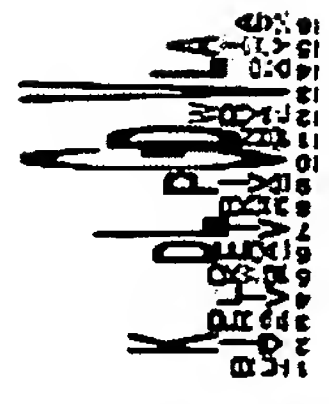


Fig. 3r

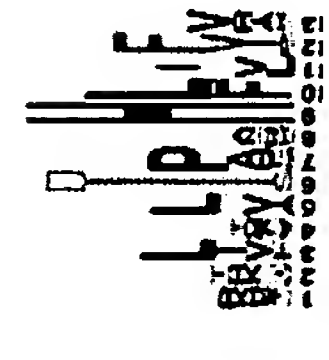


Fig. 3s

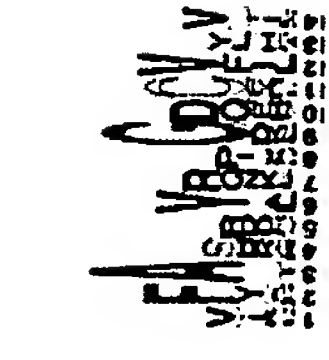


Fig. 3t

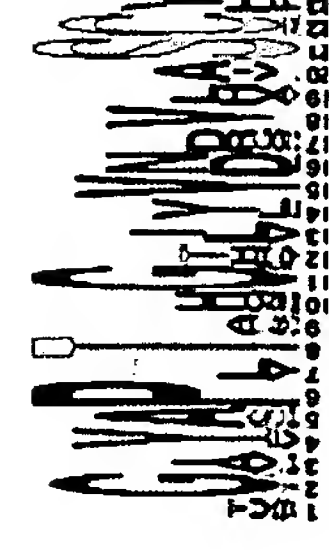


Fig. 3u

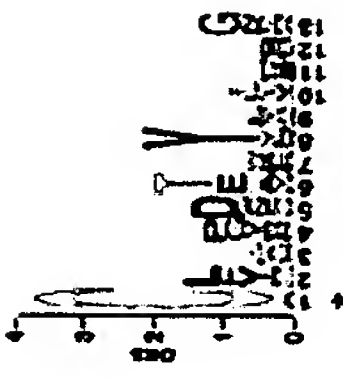


Fig. 3v

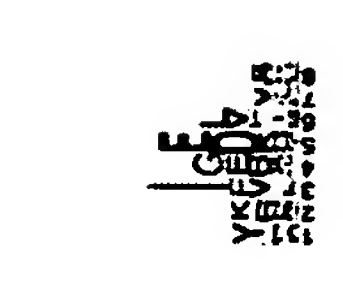


Fig. 3w

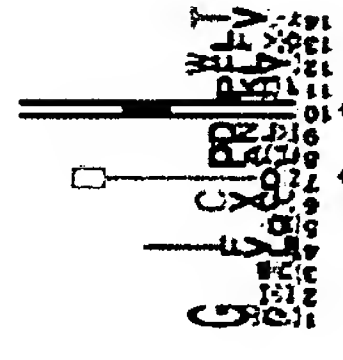


Fig. 3x

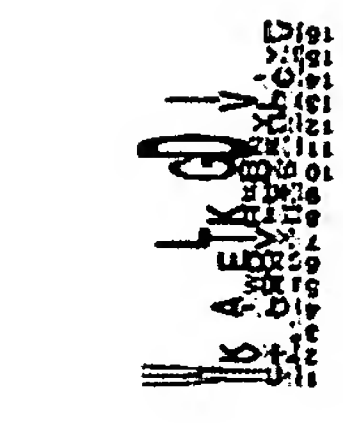


Fig. 3y

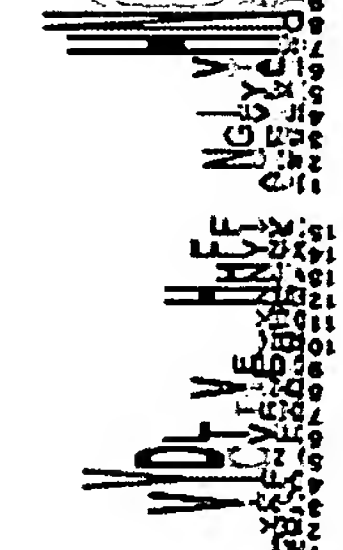
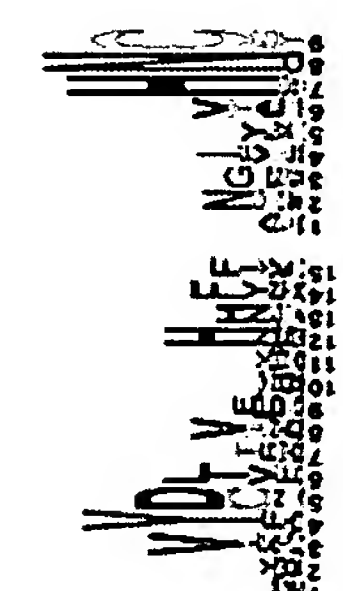


Fig. 3z



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Fig. 4a

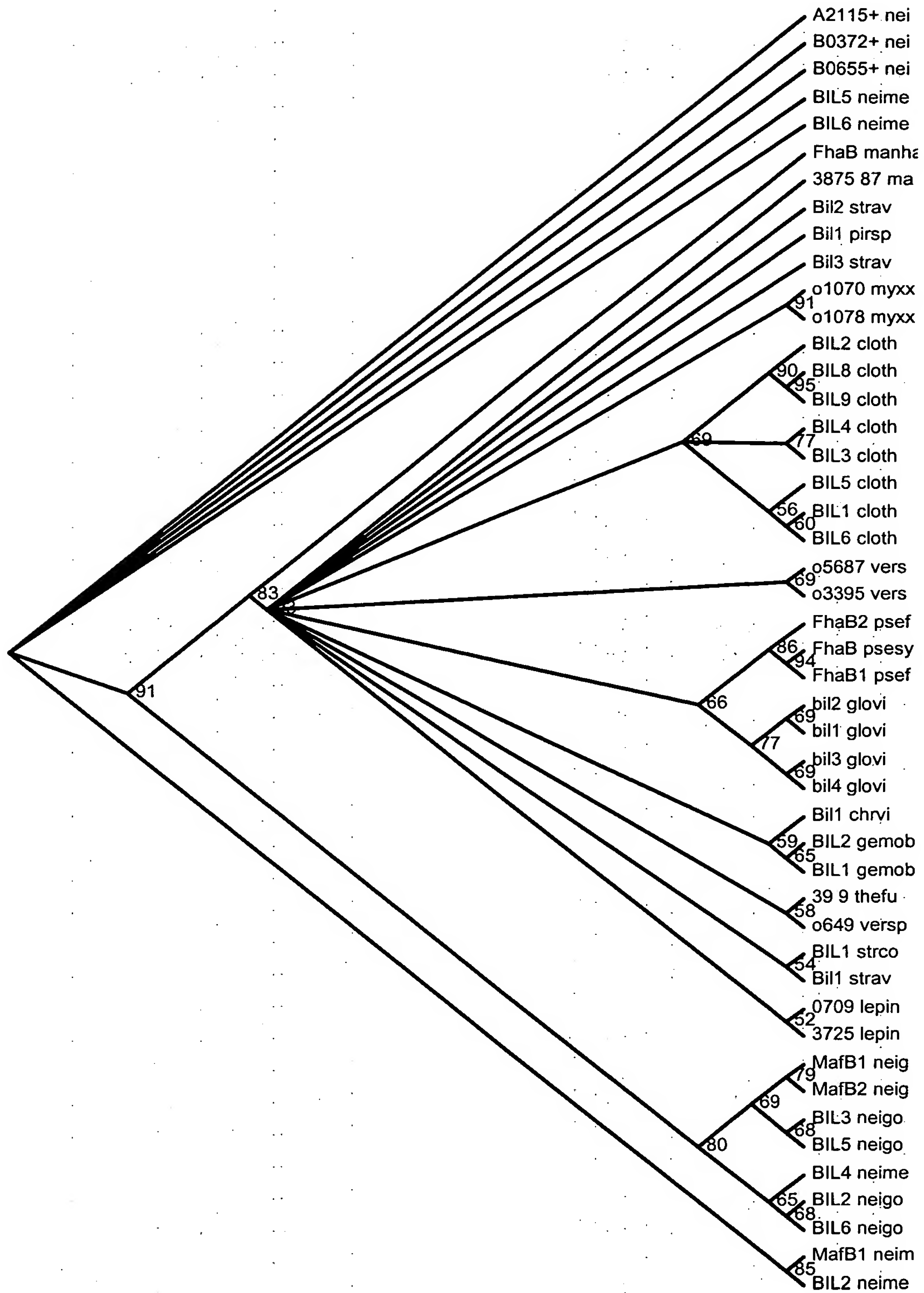
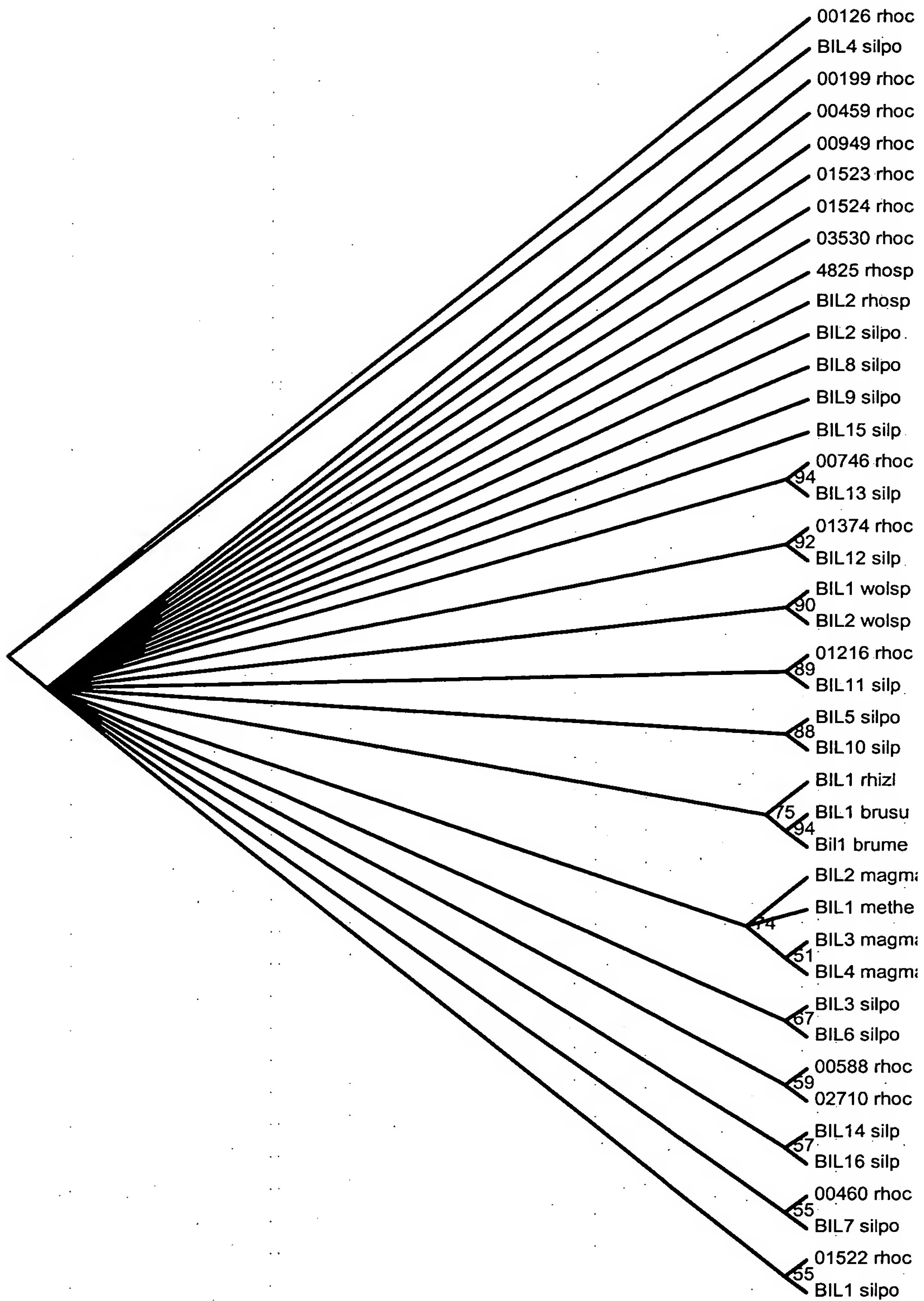


Fig. 4b





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Fig. 5a

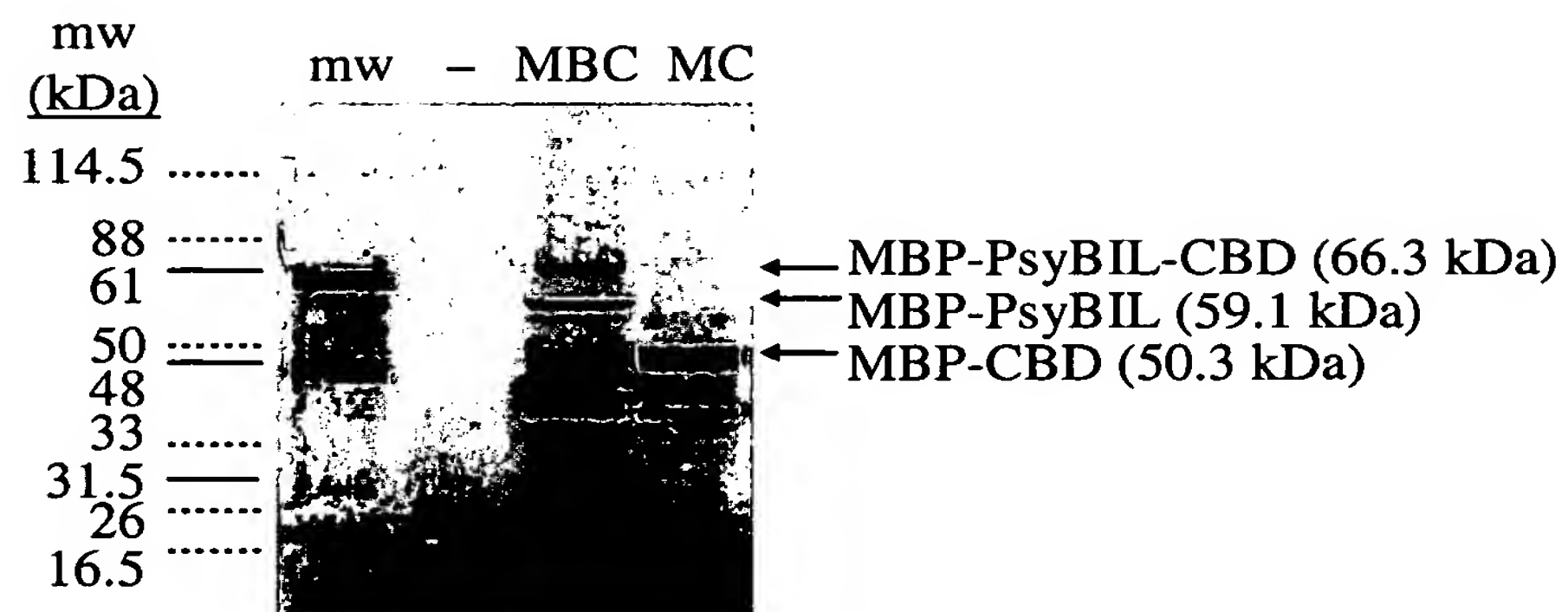


Fig. 5b

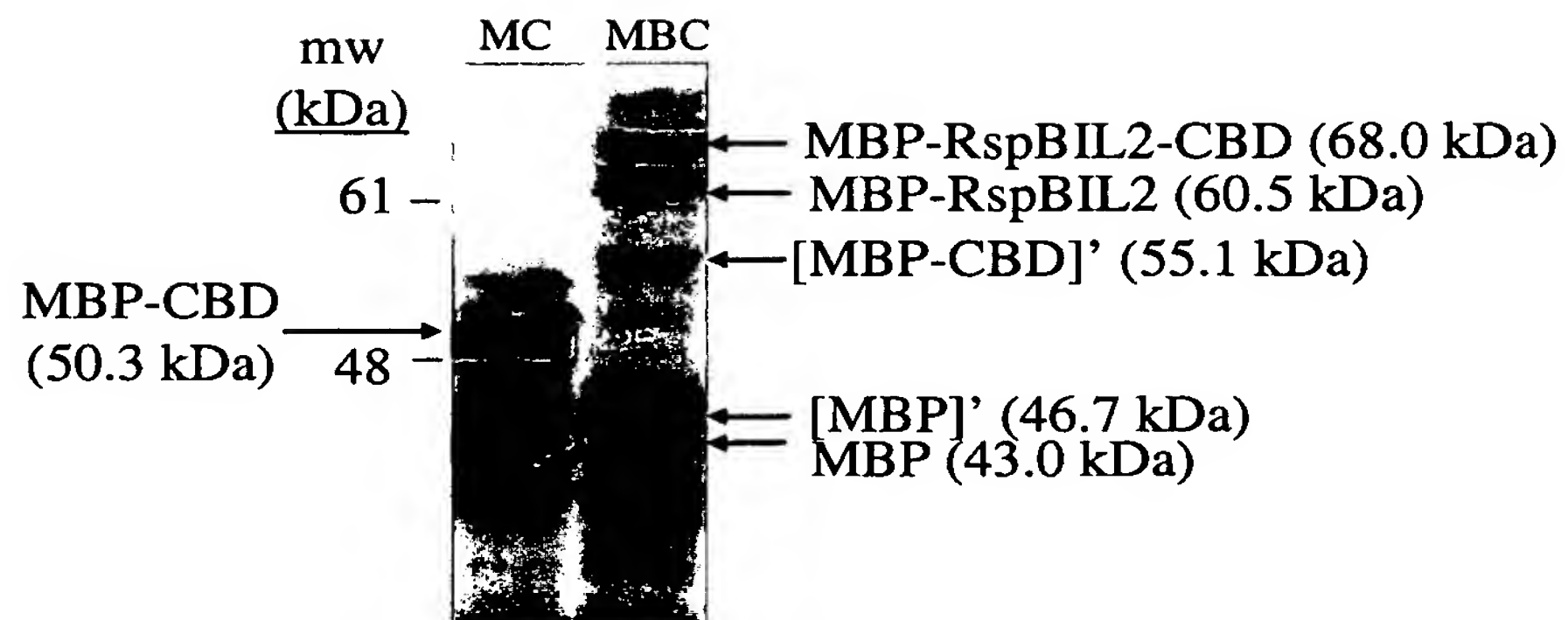


Fig. 5c

SEQ ID NO: 107

<u>CFAAGTMVST</u>	<u>PDGERAIDTL</u>	<u>KVGDIVWSKP</u>	<u>EGGKPFAAA</u>	<u>ILATHIRTDQ</u>	<u>PIYRLKLKGK</u>	6046
<u>QENGQAEDES</u>	<u>LLVTPGHPFY</u>	<u>VPAQHGFVPV</u>	<u>IDLKPGDRLQ</u>	<u>SLADGASENT</u>	<u>SSEVESLELY</u>	6106
<u>LPVGKTYNLT</u>	<u>VDVGHTTFYVG</u>	<u>KLKTWVHNT</u>				6135

Fig. 6a

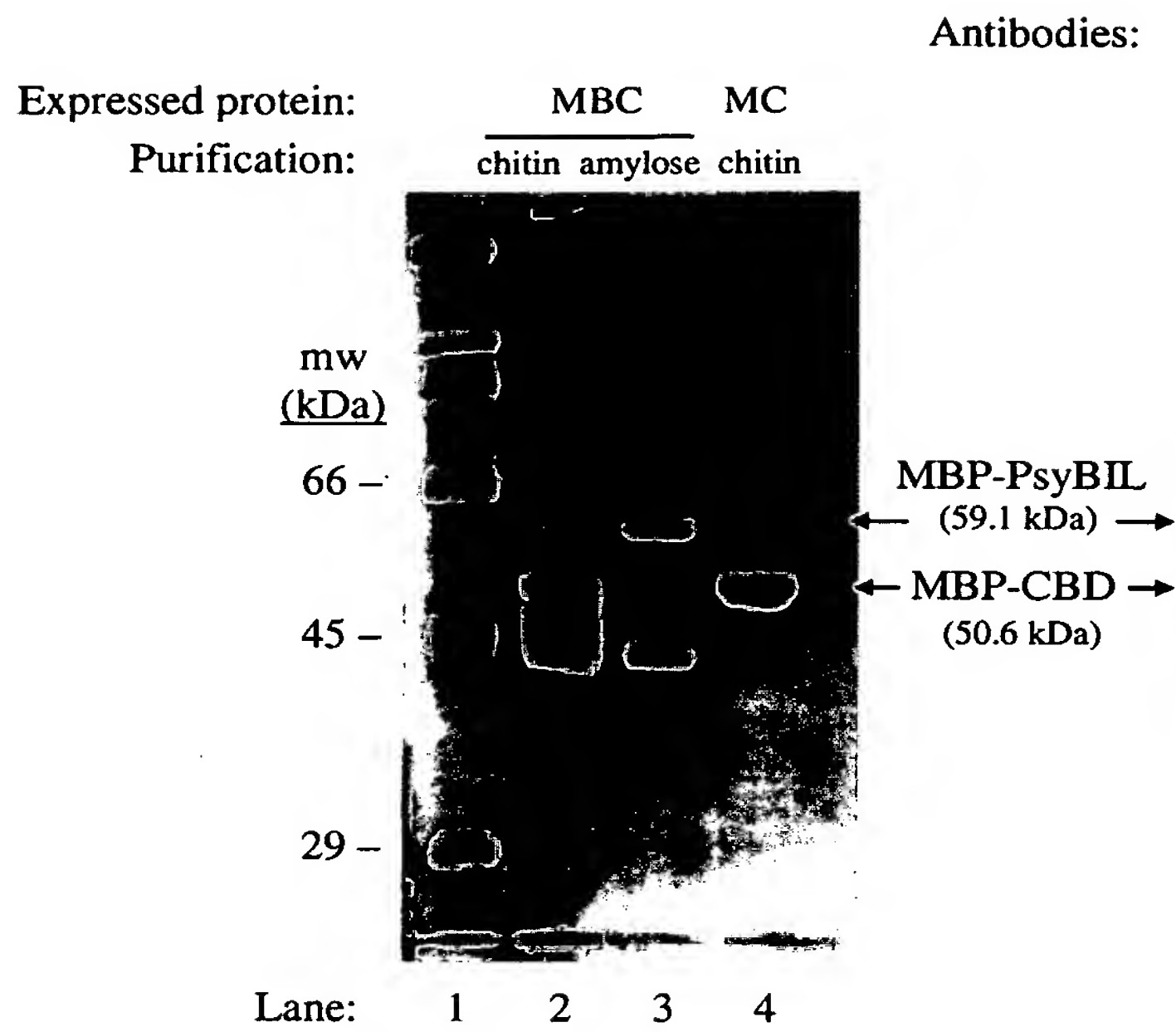


Fig. 6b

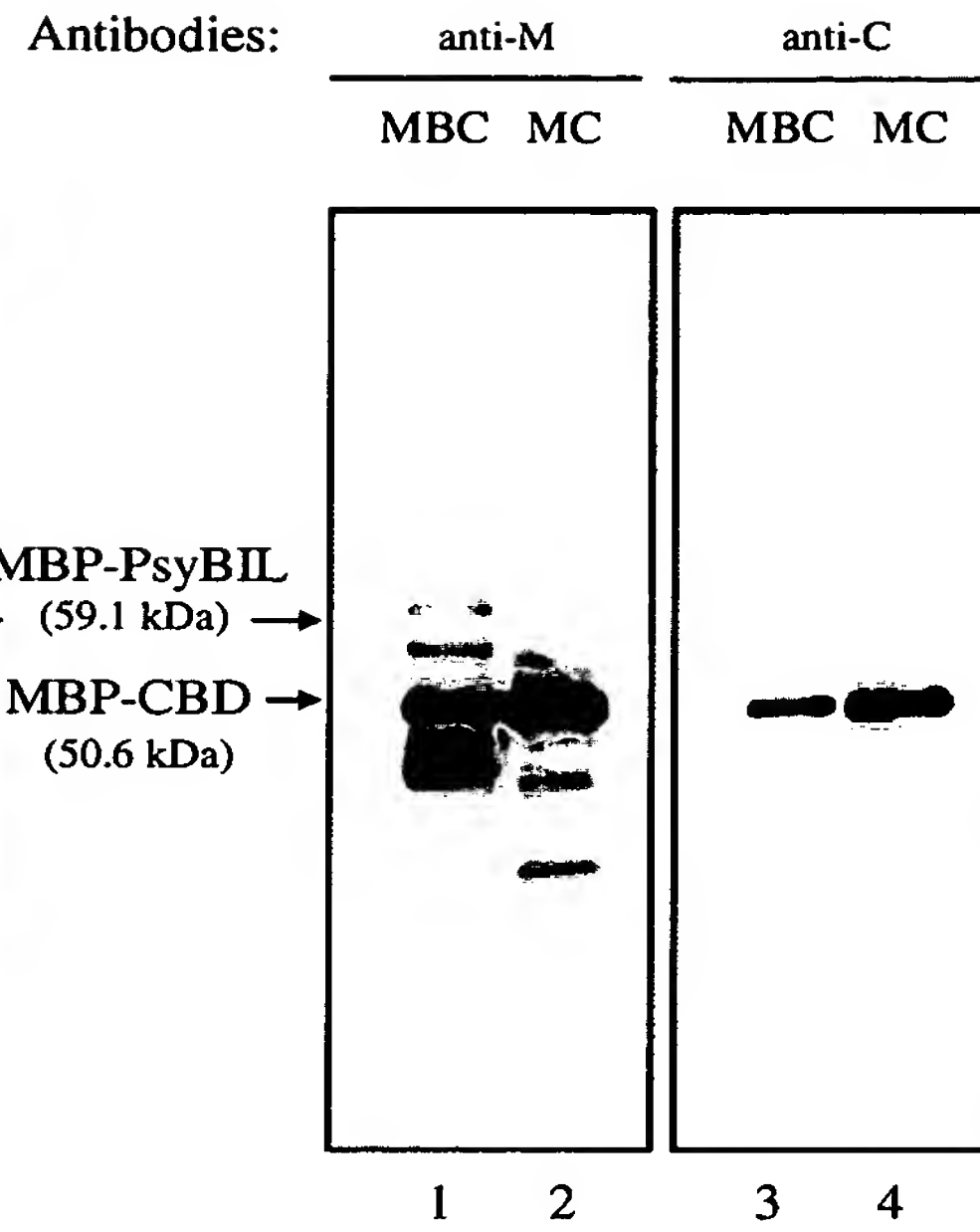


Fig. 6c

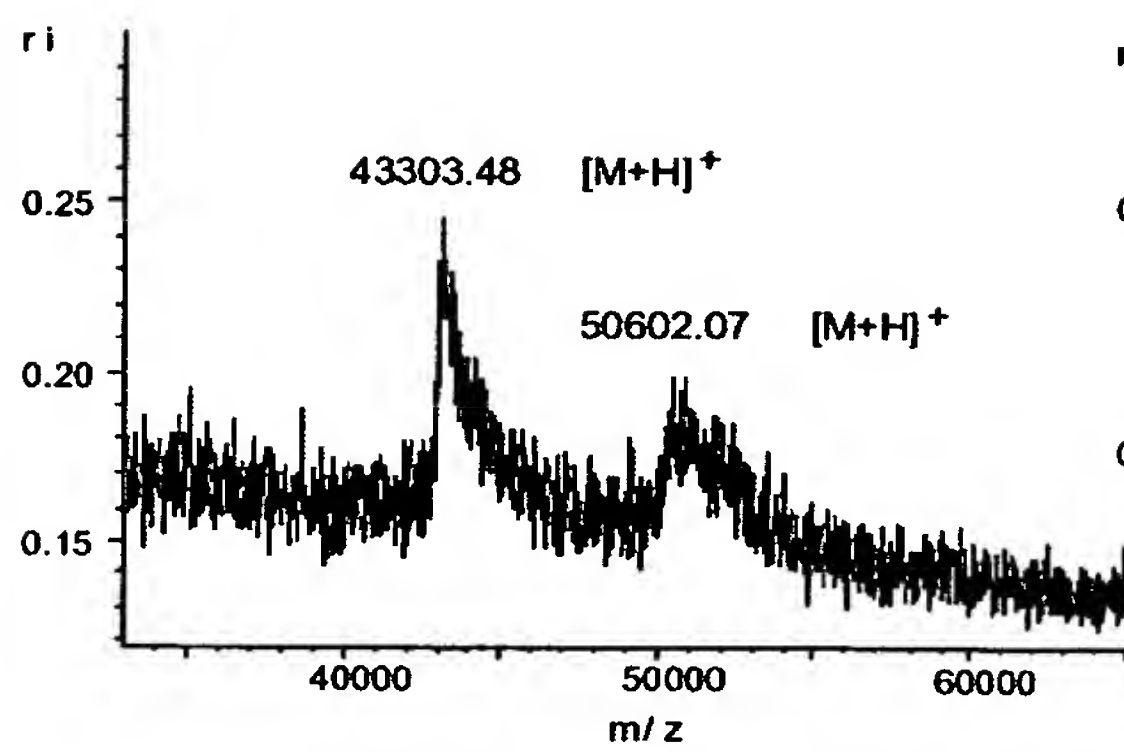


Fig. 6d

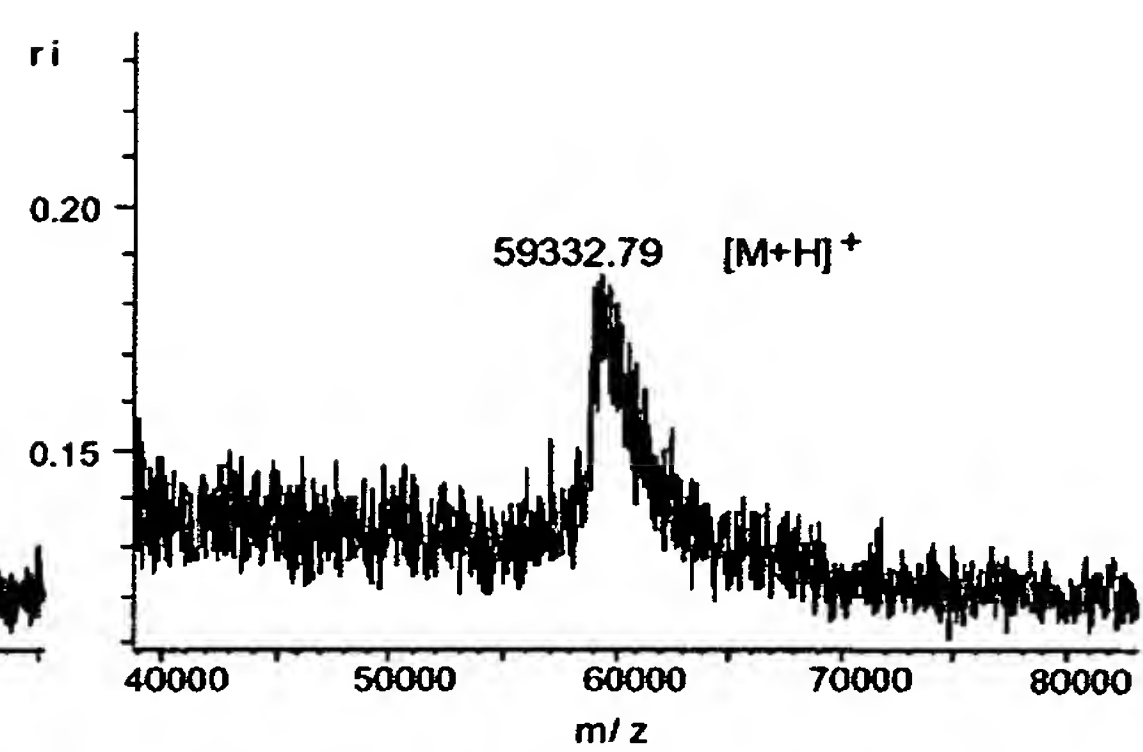


Fig. 7

SEQ ID NO: 108	<u>MKTEEGKLVI</u>	<u>WINGDKGYNG</u>	<u>LAEVGKKFEK</u>	<u>DTGIKVTVEH</u>	<u>PDKLEEKFPQ</u>	<u>VAATGDGPDI</u>	60
	<u>IFWAHDRFGG</u>	<u>YAQSGLLAEI</u>	<u>TPDKAFQDKL</u>	<u>YPFTWDAVRY</u>	<u>NGKLIAYPPIA</u>	<u>VEALSLLYNK</u>	120
	<u>DLLPNPPKTW</u>	<u>EEIPALDKEL</u>	<u>KAKGKSALMF</u>	<u>NLQEPYFTWP</u>	<u>LIAADGGYAF</u>	<u>KYENGKYDIK</u>	180
	<u>DVGVDNAGAK</u>	<u>FLVDLLIAGLT</u>	<u>KNKHMNADTD</u>	<u>YSIAEAAFNK</u>	<u>GETAMTINGP</u>	<u>WAWSNIDTSK</u>	240
	<u>VNYGVTVLPT</u>	<u>FKGQPSKPFV</u>	<u>GVLSAGINAA</u>	<u>SPNKELAKEF</u>	<u>LENYLLTDEG</u>	<u>LEAVNKDKPL</u>	300
	<u>GAVALKSYEE</u>	<u>ELAKDPRIAA</u>	<u>TMENAQKGEI</u>	<u>MPNIPQMSAF</u>	<u>WYAVRTAVIN</u>	<u>AASGRQTVDE</u>	360
	<u>ALKDAQTNSS</u>	<u>SNNNNNNNNN</u>	<u>NLGIEGRISE</u>	<u>FGSTSRVDCG</u>	<u>GLTGLNSGLT</u>	<u>TNPGVSAWQV</u>	420
	<u>NTAYTAGQLV</u>	<u>TYNGKTYKCL</u>	<u>QPHTSLAGWE</u>	<u>PSNVPALWQL</u>	<u>Q</u>		461

Fig. 8

SEQ ID NO: 109	MKTEEGKLVI	WINGDKGYNG	LAEVGKKFEK	DTGIKVTVEH	PDKLEEKFPQ	VAATGDGPDI	60
	IFWAHDRFGG	YAQSGLLAEI	TPDKAFQDKL	YPFTWDVRY	NGKLIAYPIA	VEALSLIYNK	120
	DLLPNPPKTW	EEIPALDKEL	KAKGKSALMF	NLQEPYFTWP	LIAADGGYAF	KYENGKYDIK	180
	DVGVDNAGAK	AGLTFLVDLI	KNKHMNADTD	YSIAEAAFNK	GETAMTINGP	WAWSNIDTSK	240
	VNYGVTVLPT	FKGQPSKPFV	GVLSAGINAA	SPNKELAKEF	LENYLLTDEG	LEAVNKDKPL	300
	GVALKSYEE	ELAKDPRIAA	TMENAQKGEI	MPNIPQMSAF	WYAVRTAVIN	AASGRQTVDE	360
	ALKDAQTNSS	SNNNNNNNN	NLGIEGRISE	FGScfaagtm	vstp dgerai	dtl kvgdi vw	420
	skpegggkpf	aaailathir	tdqpiyrlkl	kgkgenggae	desllvtpgh	pfyvpaqghf	480
	vpvidl kpgd	rlqsladgas	entssevesl	elylpvgkty	nltvdvghtf	yvgklktwvh	540
	n						541



Fig. 9

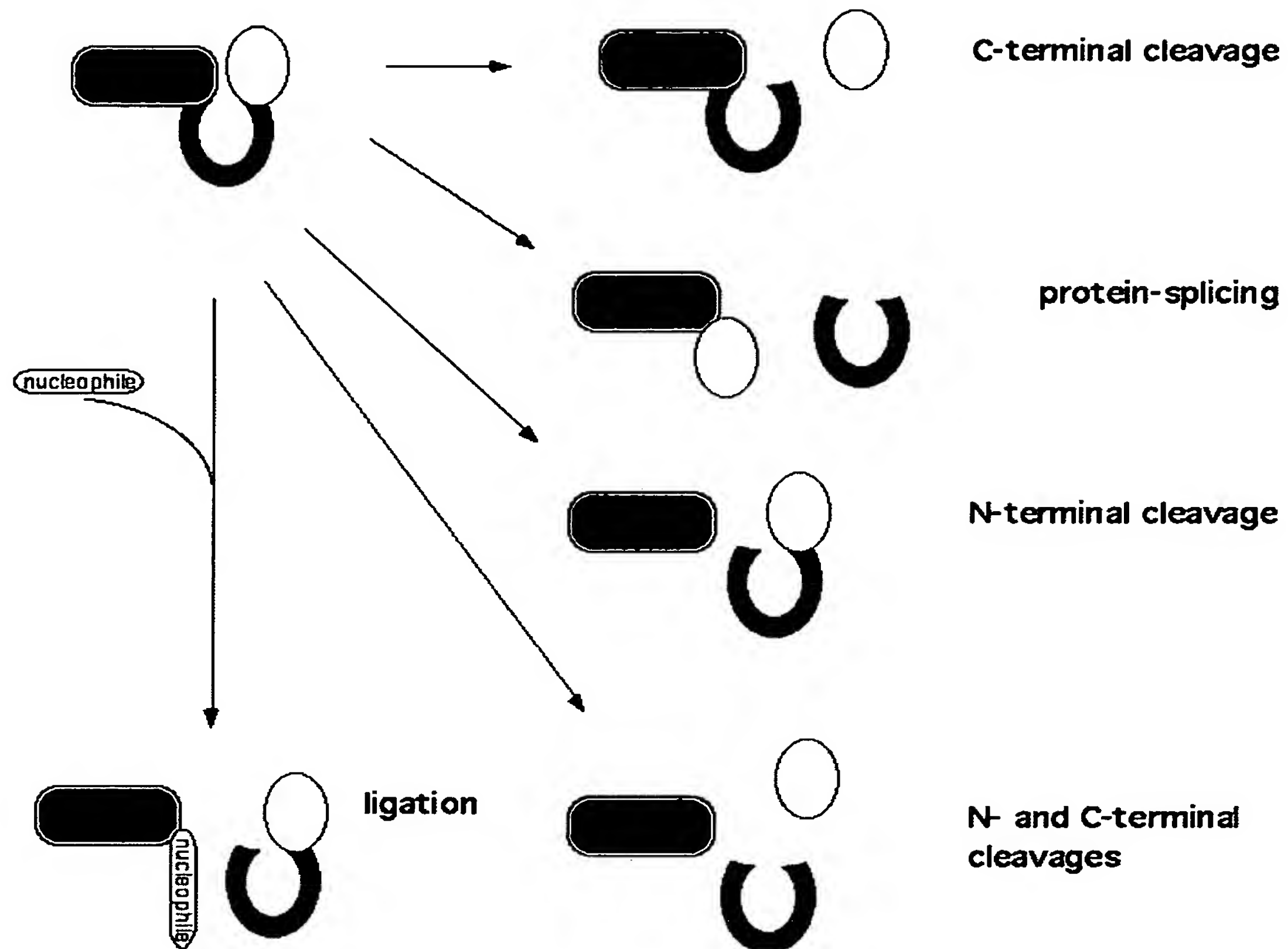


Fig. 10a

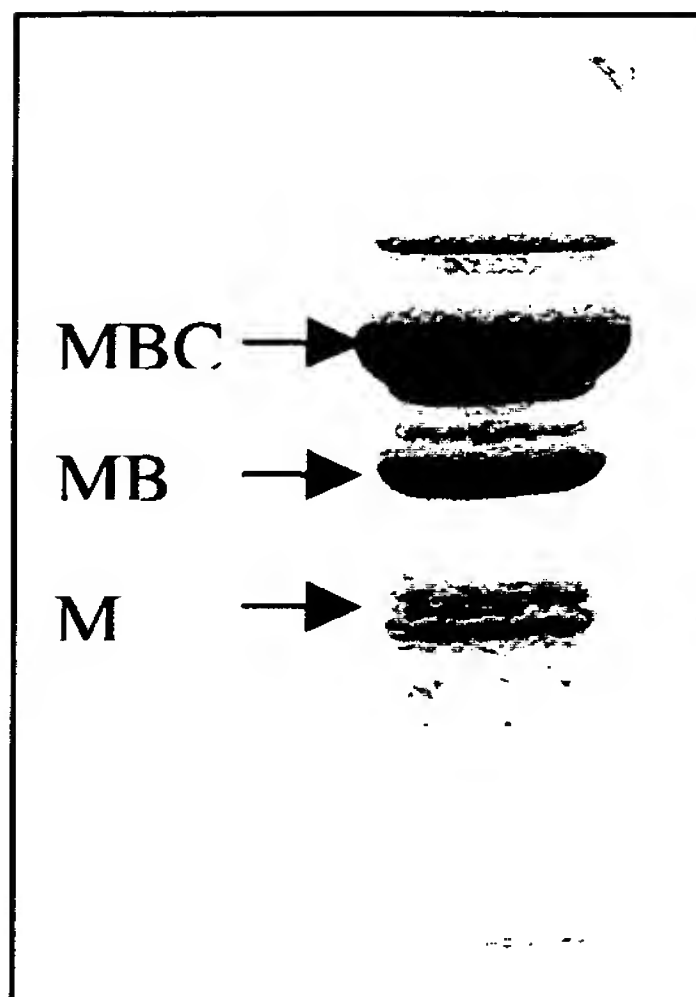


Fig. 10b

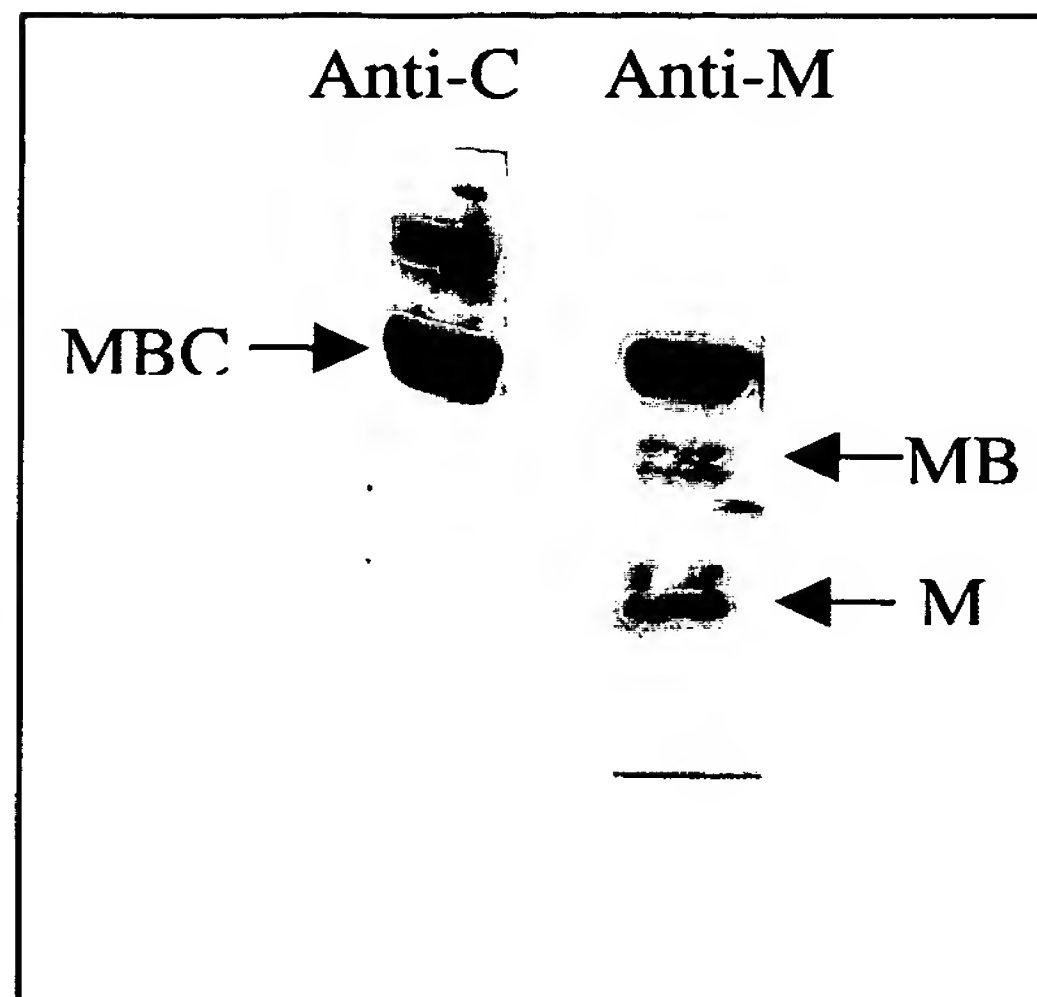


Fig. 10c

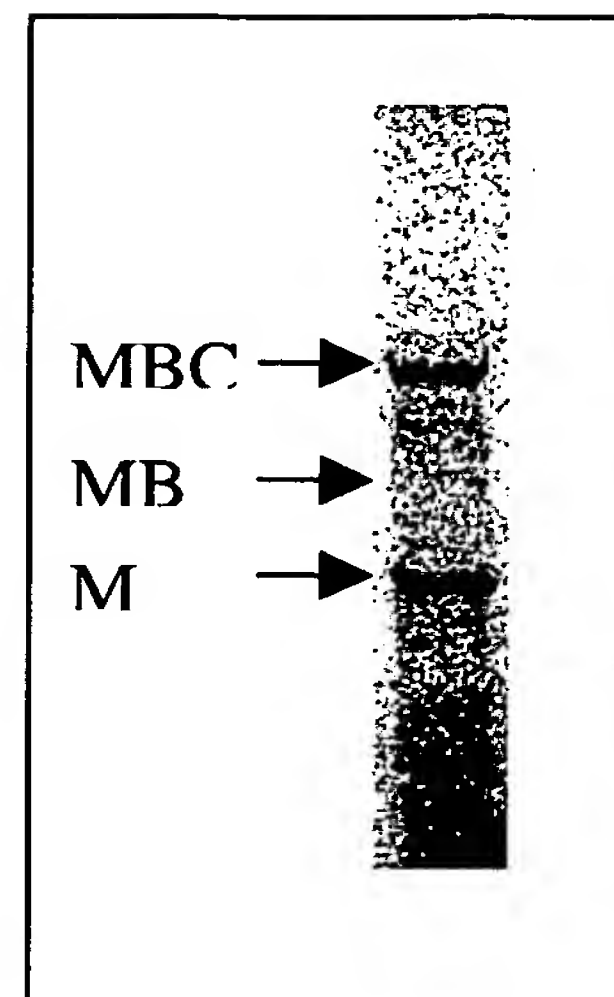


Fig. 11a

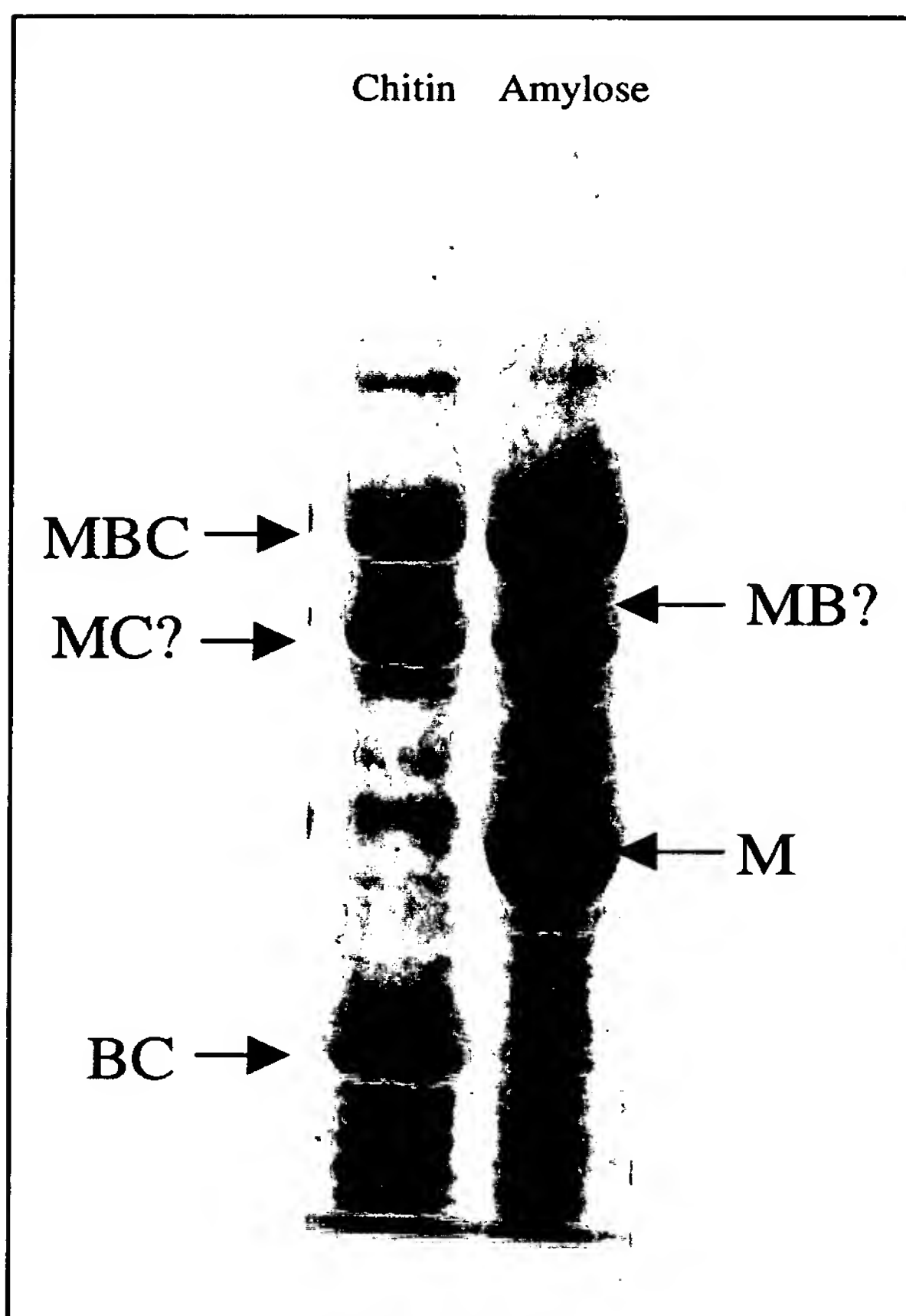


Fig. 11b

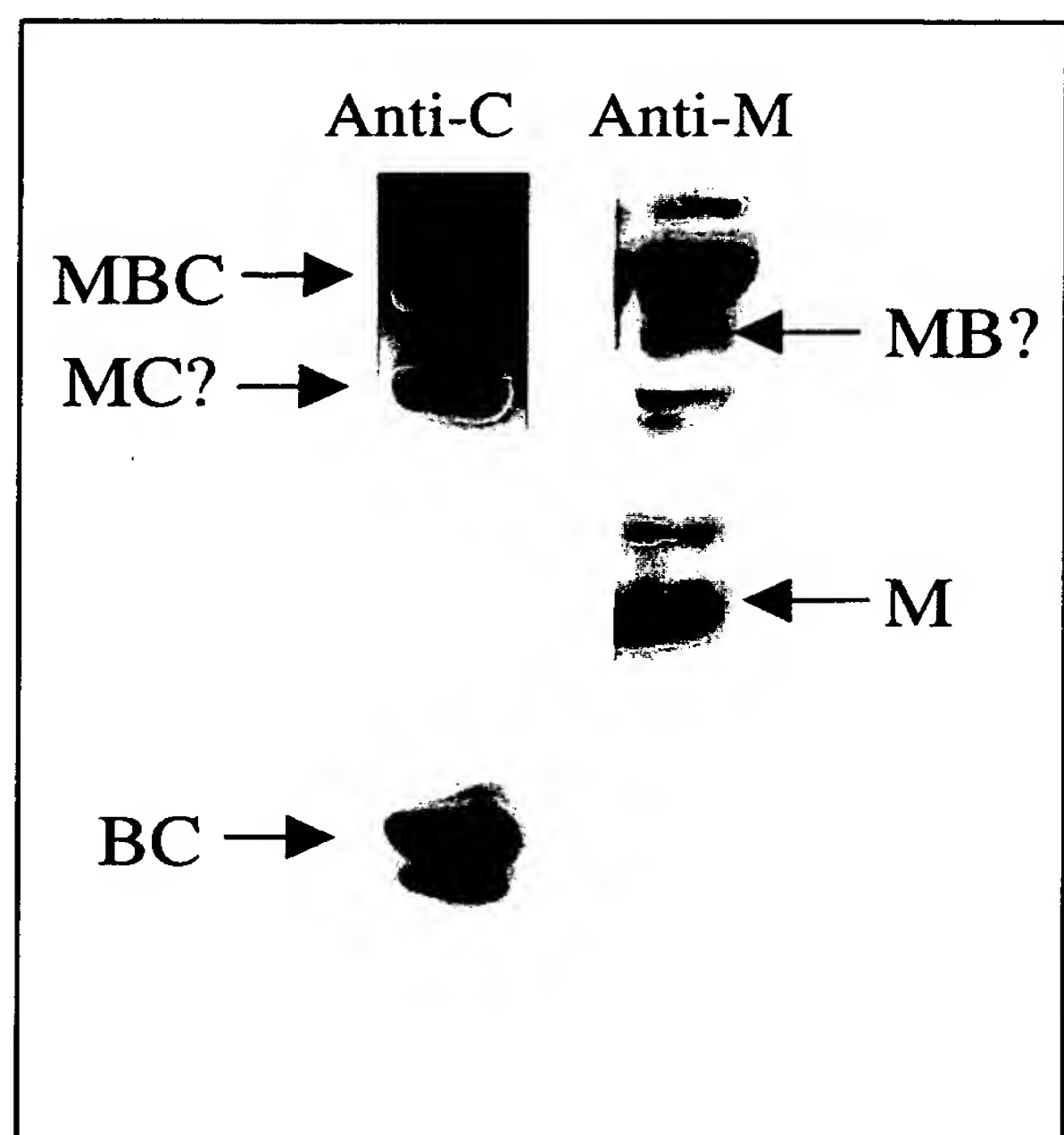


Fig. 12a

Fig. 12b

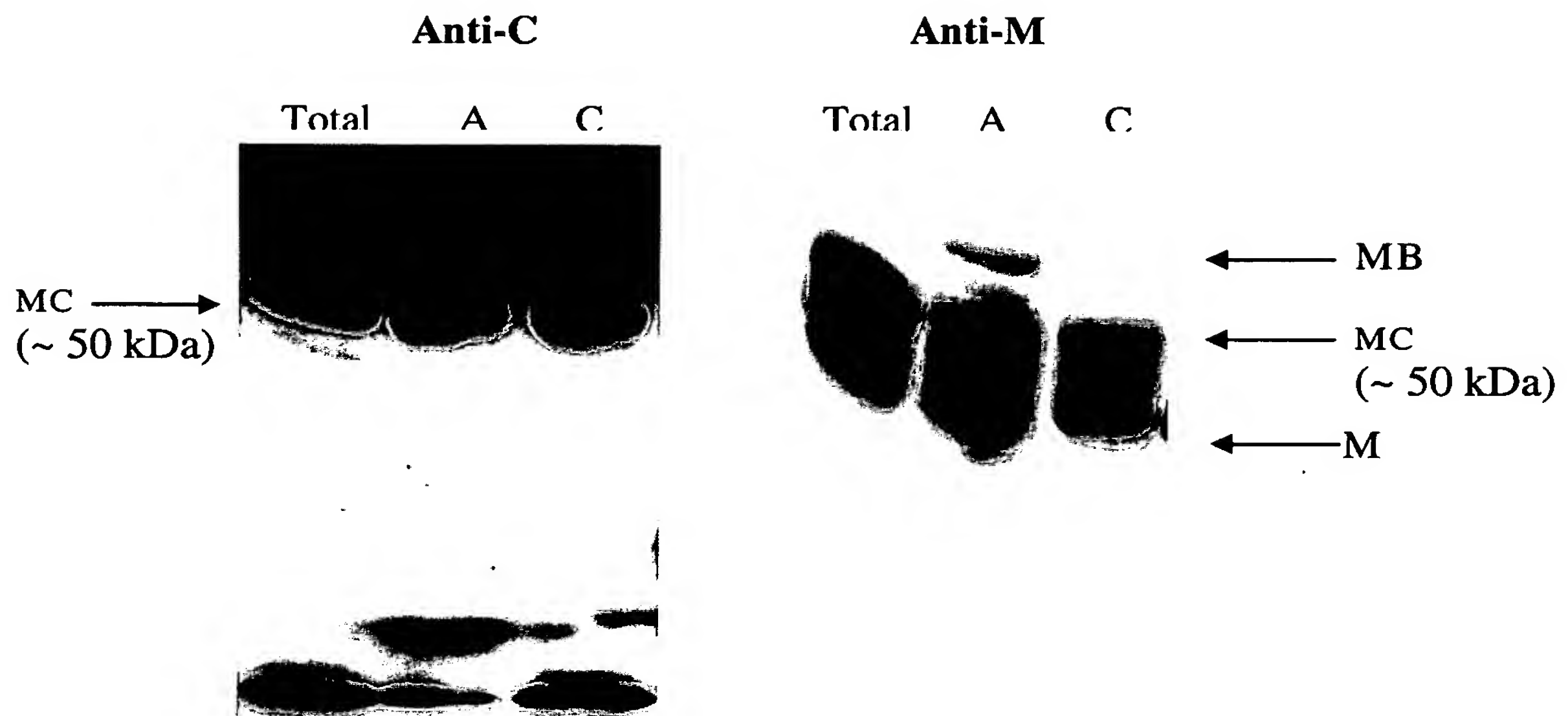
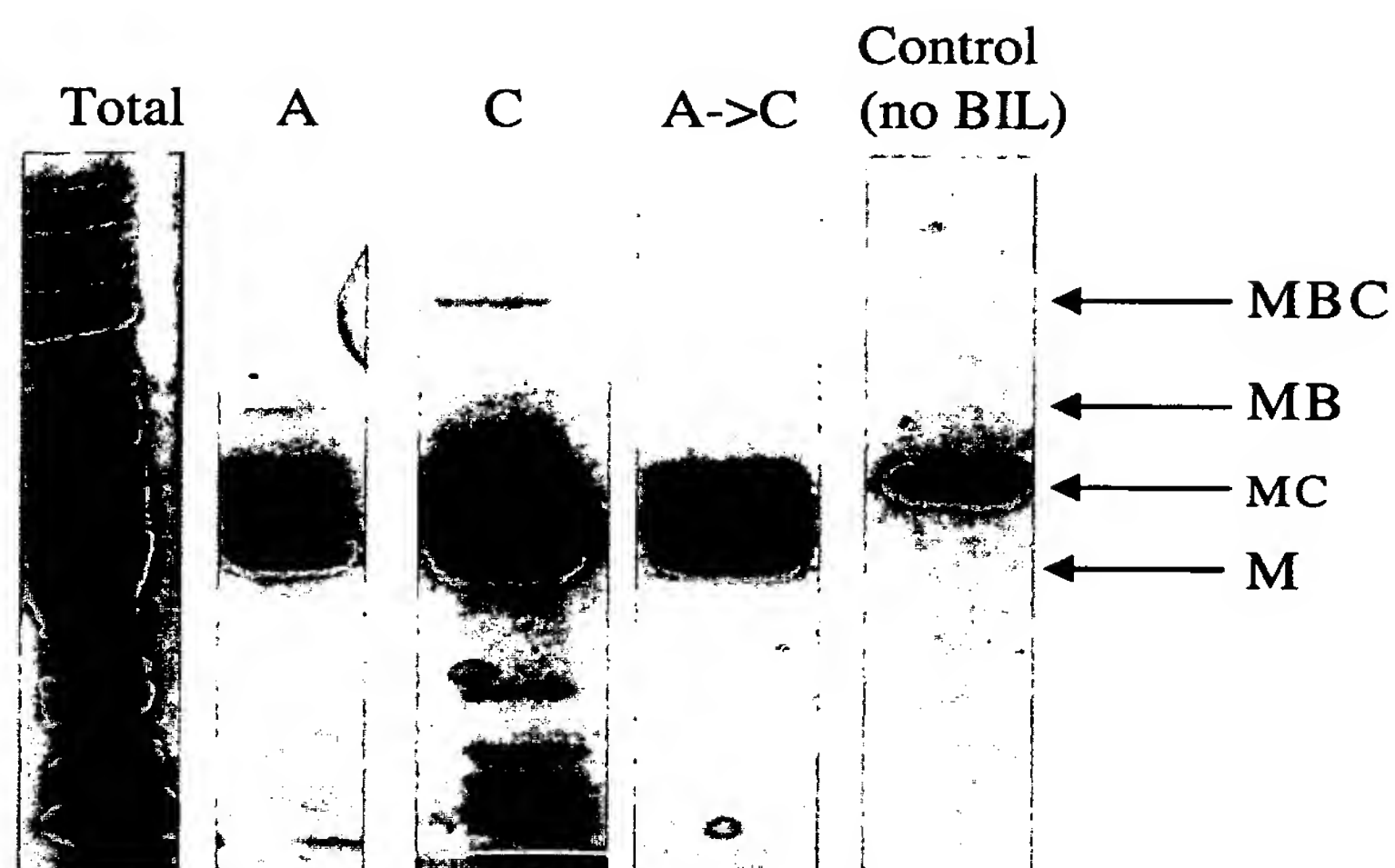


Fig. 12c



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